GOAL 1: Clean Air and Global Climate Change

Protect and improve the air so it is healthy to breathe and risks to human health and the environment are reduced. Reduce greenhouse gas intensity by enhancing partnerships with businesses and other sectors.

Since 1970, EPA has been working with its partners and stakeholders to implement the Clean Air Act and other environmental laws to achieve cleaner, healthier air for all Americans. The Agency's strategy for protecting public health relies on national regulatory, voluntary, and market-based programs carried out in combination with state, tribal, and local efforts. By phasing out lead in gasoline, setting tougher standards for vehicle emissions, and using allowance trading to reduce acid rain precursors, national programs have decreased overall emission of air pollutants by 48 percent since 1970; at the same time, economic growth has increased by over 160 percent. Every year, state and federal criteria air pollutant programs established pursuant to the 1990 Clean Air Act Amendments prevent tens of thousands of premature mortalities, millions of incidences of chronic and acute illness, tens of thousands of hospitalizations and emergency room visits, and millions of lost work days. In addition, these Clean Air Act programs provide significant economic benefits. In 2002, for example, the economic value of the reductions noted above was estimated to exceed $117 billion, compared to costs of less than $30 billion.[1]

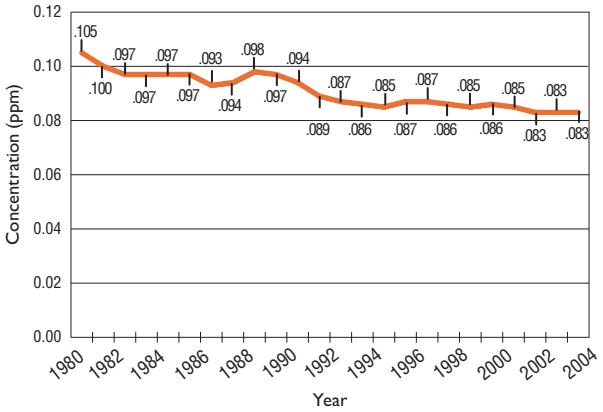
Air pollutant emissions have decreased while economic growth has increased by over 160 percent.

The Clean Air Act addresses three general categories of outdoor air pollution: "criteria" pollutants (e.g., ozone and particulate matter), air toxics, and acid rain.

Criteria Pollutants

In addressing criteria pollutants, EPA currently places a high priority on meeting new national ambient air quality standards (NAAQS) for particulate matter (PM) and ozone. Despite significant increases in vehicle travel and energy consumption, EPA, state, tribal, and local government clean air programs have reduced emissions of the volatile organic and nitrogen compounds that form ground-level ozone by 54 and 25 percent, respectively, since 1970. These emissions declined during the 1980s and 1990s, and significant reductions have continued through 2003.[2] Ozone concentration levels for 2003, the last year for

Ozone Concentrations Levels at Lowest Level since 1980



Based on 3-year rolling averages of annual average fourth maxmum 8-hour ozone concentration at 155 monitoring sites.

which quality-assured data are currently available, were the lowest since 1980.

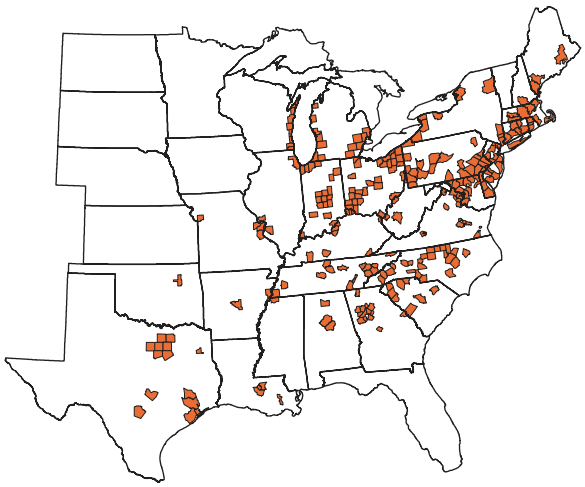
In April 2004, EPA issued boundary designations indicating which areas of the United States have attained the new 8-hour standard for ozone and which have not. (A few areas were designated as unclassifiable.) Under final designations, roughly 2,700 counties met the 8-hour ozone standard. Approximately 125 areas, including approximately 475 counties, were designated nonattainment for the 8-hour standard.[3] EPA and state, local, and tribal governments are now working on similar geographic boundary determinations for the fine PM standard; states submitted proposals in February 2004, and EPA will issue final designations by December 2004.

These designations initiate a planning process during which state and local governments in nonattainment areas will prepare plans for achieving clean air. Planning will incorporate federal as well as local measures. At the federal level in FY 2004, EPA proposed the Clean Air Interstate Rule[4] and promulgated the Clean Air Nonroad Diesel Rule for construction, agricultural, and industrial diesel equipment.[5] As proposed or final, these two programs—combined with such existing programs as the Tier 2/gasoline sulfur standards for cars and light trucks, the Nitrogen Oxides State Implementation Plan (NO_x SIP) Call Rule to reduce interstate ozone transport, and the Clean Diesel program for new trucks and buses—will bring well over half of counties now monitoring nonattainment into attainment with the fine particle and ozone standards by 2015.

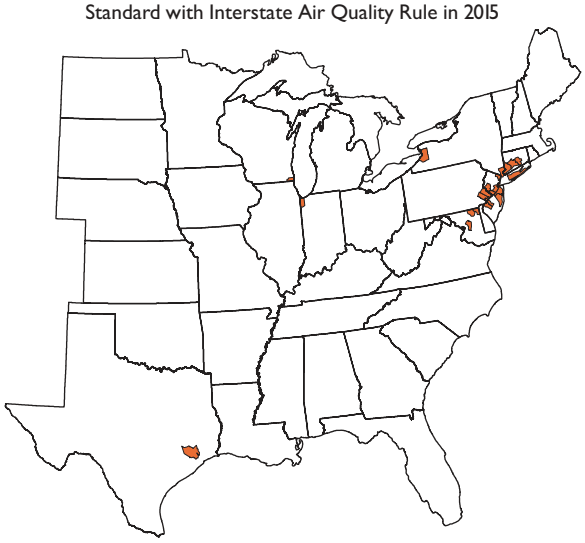
Ozone Pollution

The Interstate Air Quality Rule Together with Other Clean Air Programs Will Bring Cleaner Air to Cities in the East

274 Counties Exceed the 8-Hour Ozone Standard in 2002



Remaining 26 Counties Likely to Exceed the 8-Hour Ozone Standard with Interstate Air Quality Rule in 2015



8-hour Ozone Standard = 85 ppb

EPA must regularly review standards for criteria pollutants and revise them based on the latest scientific information. The PM standard is next on the Agency's review schedule. Past research has shown that short-term exposure to PM can adversely affect human health and is generally associated with illness and premature death independent of the effects of other, gaseous pollutants in the atmosphere. Other findings suggest that people with lung disease may be more affected by increasing levels of PM. Research has also led to hypotheses on how the chemical and physical properties of PM could produce disease and models for estimating how much PM will travel from a source of potentially toxic particles to affected populations. Many questions remain, however,

particularly regarding the role long-term exposure to PM plays in development of chronic disease.

EPA's 2004 research findings support the association between exposure to PM and illness and death, especially for asthmatic children and other susceptible groups.[6] Scientists have also found that $PM_{2.5}$, the component of PM smaller than 2.5 microns in diameter, easily penetrates most indoor environments, where people spend much of their time. In FY 2004, EPA estimated relationships between indoor concentrations and personal exposures to particles from both indoor and outdoor sources.[7] EPA's Office of Research and Development (ORD) will be investigating new hypotheses on how PM causes disease and death, which can help the Agency and its partners develop targeted control strategies to reduce human exposure. In addition, EPA will accelerate research to help implement NAAQS by using modeling and monitoring data to determine which states and regions are out of compliance and developing new analytical tools that will help them comply with the NAAQS.

Air Toxics

The Clean Air Act includes provisions that address air toxics from mobile sources, major stationary sources, and area stationary sources. In FY 2004, EPA completed the first of a two-phase program for addressing large stationary sources of air toxics. The Agency issued 96 Maximum Achievable Control Technology Standards covering 160 categories of industrial sources. The standards completed and issued have resulted in reductions of approximately 1.5 million tons of toxic air emissions and will achieve even greater reductions when all sources come into compliance by 2007. The second phase of the air toxics program is risk-based: EPA will promote a community-based approach to addressing local problems, which the Agency expects will result in measurable reduced exposures to toxic chemicals, particulates, and asthma triggers.[8]

Implementation of MACT standards has reduced air toxic emissions by 1.5 million tons per year.

Communities Create Early Action Compacts

Some communities recognized early-on that they would not meet the new, more stringent ozone standards and began to think creatively about how to improve their air more quickly and avoid designation. Thirty-three metropolitan areas collaborated with EPA, states, and environmental organizations to create Early Action Compacts. Under these innovative, voluntary agreements, partners accelerate planning and implementation efforts to reduce emissions in advance of Clean Air Act requirements. If all the requirements are met, EPA defers the effective date of the nonattainment designation. Early Action Compacts exemplify innovative thinking: focusing on results and using collaboration and incentives will provide approximately 10 million people with cleaner air, faster. (More information is available at http://www.epa.gov/air/eac.)

Acid Rain

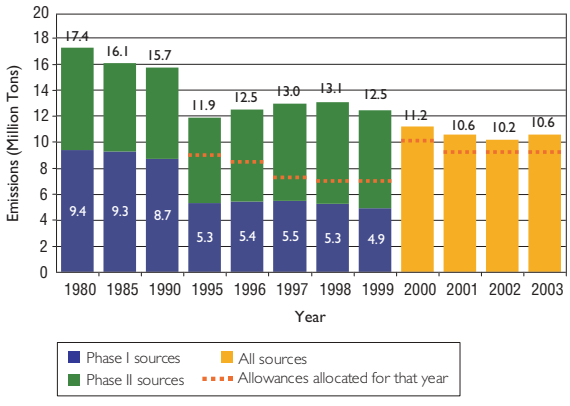
Long-term studies and measurements of acid rain deposition and surface water acidity demonstrate positive environmental outcomes from the Acid Rain Program. A comparison of average annual wet sulfate deposition for 1989–91 and 1999–2001 shows reductions of up to 30 percent over a large area of the eastern United States. *Response of Surface Water Chemistry to the Clean Air Act Amendments of 1990*, an ORD report released in 2003, indicates that in three of five geographic areas studied, one-quarter to one-third of lakes and streams previously affected by acid rain are no longer acidic, although they remain highly sensitive to future changes in deposition. Signs of recovery were not yet evident in the other two areas, suggesting that further reductions, such as those presented in the proposed Clean Air Interstate Rule or the Clear Skies Act, will be needed for ecosystem recovery. For more information, see http://www.epa.gov/ord/htm/CAAA-2002-report-2col-rev-4.pdf.

Annual wet sulfate deposition shows reductions of up to 30 percent for a large area of the eastern United States. Many lakes and streams are no longer acidic.

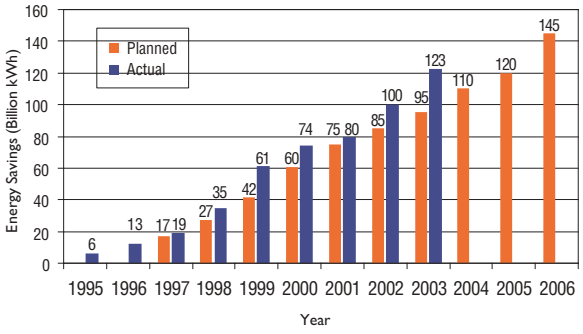
Historically, environmental progress has been achieved largely by advances in environmental technologies—catalytic converters on cars and trucks, sulfur dioxide scrubbers, selective catalytic reduction for NOx removal, and reformulated gasoline. Over the next 15 years, innovative technologies like fuel cells, hybrid vehicles, renewable fuels, and zero-emission power plants will enable EPA to reach aggressive goals that match or exceed the progress made in the past. By designing and promoting market-based strategies, such as cap-and-trade programs, EPA can foster innovation and provide incentives for developing and adopting efficient, high-performing technologies.

Innovative approaches and technologies will enable further environmental progress.

SO_2 Emission Reductions under the Acid Rain Program



Energy Goals and Achievements for Climate Protection Programs



Goal 1: Clean Air and Global Climate Change

Annual Performance Goals Met:	4
Annual Performance Goals Not Met:	1
Data Available After 11/5/04:	13

FY2004 Obligations (in thousands):	
EPA Total:	$10,155,381
Goal 1:	$923,074
Goal 1 Share of Total:	9.1%

FY2004 Costs (in thousands):	
EPA Total:	$8,837,375
Goal 1:	$942,835
Goal 1 Share of Total:	10.7%

Note: In the FY 2005 Annual Performance Plan and Congressional Justification, EPA's Office of Air and Radiation (OAR) corrected the baseline for the criteria pollutants (1-hour ozone, PM_{10}, CO, SO_2 and Pb) correcting the display of prior year targets and actuals for the NAAQS performance goals. Previously, OAR had included as its baseline only the 1990 population for areas designated as non-attainment; all improvements were against that baseline. OAR has now corrected this baseline to include the population for areas that were designated as attainment or unclassified. This correction gives a truer picture of the baseline population and the progress towards EPA's strategic goal. This correction does not change the status of whether EPA met or did not meet the goal or measure for the criteria pollutants for years prior to 2004.

Strategic Objective: Through 2010, working with partners, protect human health and the environment by attaining and maintaining health-based air-quality standards and reducing the risk from toxic air pollutants. FY 2004 Cost (in thousands): $596,826 (63.3% of FY 2004 Goal 1 Total Costs)

Progress Toward Strategic Objective: EPA, working with its state, local, and tribal partners as well as industry, small businesses, and other federal agencies, continues to make steady progress in attaining and maintaining health-based air quality standards and reducing the risk from toxic air pollutants. EPA's Clean Air Nonroad Diesel Rule, promulgated as a final rule in May 2004, requires stringent pollution controls on diesel engines used in industries such as construction, agriculture and mining, and reduces the sulfur content of diesel fuel by 99%. The suite of Clean Air Rules of 2004 (Clean Air Ozone Rules, Clean Air Fine Particle Rules, Clean Air Interstate Rule, Clean Air Mercury Rule as well as the non-road diesel program), combined with other existing programs, including the Tier 2 clean vehicles and gasoline sulfur standards for cars and light trucks, the NO_x SIP Call rule to reduce interstate ozone and the Clean Diesel program for new trucks and buses, will bring more than half of counties now monitoring nonattainment into attainment with the fine particle and ozone standards. EPA signed the Utility Mercury Reductions proposal which would permanently cap emissions from coal-fired power plants and provide companies with flexibility to achieve early reductions from mercury. EPA promulgated the last of the maximum achievable technology (MACT) standards for major stationary sources, which once fully implemented will decrease air toxics emissions by 1.7 million tons per year. EPA continues to shift the emphasis of its air toxics program to a risk-based approach and is continuing to analyze the various source categories promulgated under MACT for remaining residual risk. EPA has begun to focus increasingly on community-specific air toxics problems, working with partners and stakeholders to identify and address the risk reductions that matter most to local citizens.

APG 1.1	Reduce Ozone and Ozone Precursors	Planned	Actual
FY 2004	The number of people living in areas with monitored ambient ozone concentrations below the NAAQS for the 1-hour ozone standard will increase by 4% (relative to 2003) for a cumulative total of 47% (relative to 1992).		
	Performance Measures:		
	—Cumulative percent increase in the number of people who live in areas with ambient 1-hour ozone concentrations below the level of the NAAQS as compared to 1992.	47%	Data avail 2005
	—Cumulative percent increase in the number of areas with ambient 1-hour ozone concentrations below the level of the NAAQS as compared to 1992.	55%	Data avail 2005

APG 1.1	Reduce Ozone and Ozone Precursors *(continued)*	Planned	Actual
FY 2004	—Total number of people who live in areas designated to attainment of the Clean Air Standards for ozone.	167.3 M	165.4M
	—Areas newly designated to attainment for the ozone standards.	5 areas	3 areas
	—Additional people living in newly designated areas with demonstrated attainment of ozone standards.	5.8 M	3.9 M
	—Tons of VOCs Reduced from Mobile Sources.	2.0 M	2.0 M
	—Tons of NO_x Reduced from Mobile Sources.	1.65 M	1.65 M
FY 2003	Maintain healthy air quality for approximately 161.5 million people living in monitored areas attaining the ozone standard; certify 7 areas of the remaining 54 nonattainment areas. Attained the 1-hour NAAQS for ozone, thus increasing the number of people living in areas with healthy air by 5.8 million. Goal Met.		
	Performance Measures:		
	—Cumulative percent increase in the number of people who live in areas with ambient 1-hour ozone concentrations below the level of the NAAQS as compared to 1992.	19%	42%
	—Cumulative percent increase in the number of areas with ambient 1-hour ozone concentrations below the level of the NAAQS as compared to 1992.	31%	93%
	—Tons of VOCs Reduced from Mobile Sources.	1.9 M	1.9 M
	—Tons of NO_x Reduced from Mobile Sources.	1.4 M	1.4 M
FY 2002	Maintain healthy air quality for approximately 155.7 million people living in monitored areas attaining the ozone standard; certify 3 areas of the remaining 55 nonattainment areas have attained the 1-hour NAAQS for ozone, thus increasing the number of people living in areas with healthy air by 3.6 million.		
	Performance Measures:		
	—Cumulative percent increase in the number of people who live in areas with ambient1-hour ozone concentrations below the level the NAAQS as compared to 1992.		37%
	—Cumulative percent increase in the number of areas with ambient 1-hour ozone concentrations below the level of the NAAQS as compared to 1992.		83%
	—Total number of people who live in areas designated to attainment of the Clean Air Standards for ozone.		155.7 M
	—Areas newly designated to attainment for ozone standard.	3 areas	2 areas
	—Additional people living in newly designated areas with demonstrated attainment of the ozone standard.		3.6 M
	—Tons of VOCs Reduced from Mobile Sources.	1.8 M	1.8 M
	—Tons of NO_x Reduced from Mobile Sources.	1.3 M	1.3 M
FY 2001	EPA maintained healthy air quality for 152 million people living in areas attaining the ozone standard, increased by 170 thousand the number of people living in areas with healthy air quality that have newly attained the standard by certifying two areas have attained the 1-hour standard.		

APG 1.1 Reduce Ozone and Ozone Precursors *(continued)*		Planned	Actual
FY 2001	***Performance Measures:***		
	—Cumulative percent increase in the number of people who live in areas with ambient 1-hour ozone concentrations below the level of the NAAQS as compared to 1992.		33%
	—Cumulative percent increase in the number of areas with ambient 1-hour ozone concentrations below the level the NAAQS as compared to 1992.		80%
	—Total number of people who live in areas designated to attainment of the Clean Air Standards for ozone.		152 M
	—Areas newly designated to attainment for ozone standard.	2 areas	1 area
	—Additional people living in newly designated areas with demonstrated attainment of the ozone standard.		170 K
	—Tons of VOCs Reduced from Mobile Sources.	1.7 M	1.7M
	—Tons of NO_x Reduced from Mobile Sources.	1.2 M	1.2 M

FY 2004 Result: EPA is not on track to meet this goal based on available data. EPA maintained healthy air quality for 165.4 million people living in 53 areas designated as attaining the 1-hour ozone standard (falling short of its goal by 1.9 million people) and certified that 3 (out of a target of 5) of the remaining 48 non-attainment areas have attained the 1-hour NAAQS for ozone, thereby increasing the number of people living in areas with healthy air by 3.9 million in lieu of the 5.8 million target. However, EPA will revoke the 1-hour standard in June 2005 to reflect that in April 2004, EPA made attainment designations for areas under the 8-hour standard. Areas are currently developing their clean air plans to meet the 8-hour standards.

A description of the quality of data used to measure EPA's performance can be found in Appendix B, pages 20-21.

FY 2003 Result Available in 2004: As reported in its FY 2003 report, EPA declared this goal not met. With this report, EPA is reporting on the data that was not yet available for the FY 2003 report EPA measured a cumulative increase of 42% of the number of people who live in areas with ambient 1-hour ozone concentrations below the level of the NAAQS and measured a cumulative increase of 93% in the number of areas with ambient 1-hour ozone concentrations below the level of the NAAQS as compared to 1992.

APG 1.2 Reduce CO, SO_2, NO_2, Lead (Pb)		Planned	Actual
FY 2004	The number of people living in areas with monitored ambient CO, SO_2, NO_2, or Pb concentrations below the NAAQS for the standard will increase by 4% (relative to 2003) for a cumulative total of 53% (relative to 1992).		
	Performance Measures:		
	—Cumulative percent increase in the number of people who live in areas with ambient CO, SO_2, NO_2, or Pb concentrations below the level the NAAQS as compared to 1992.	53%	Data avail 2005
	—Cumulative percent increase in the number of areas with ambient CO, SO_2, NO_2, or Pb concentrations below the level of the NAAQS as compared to 1992.	87%	Data avail 2005
	—Total number of people who live in areas designated to attainment of the Clean Air Standards for CO, SO_2, NO_2, or Pb.	174 M	173.3 M
	—Areas newly designated to attainment for CO, SO_2, NO_2, or Pb standards.	19 areas	14 areas
	—Additional people living in newly designated areas with demonstrated attainment of the CO, SO_2, NO_2, or Pb standards.	6.2 M	5.4 M
	—Tons of CO reduced from mobile sources.	12.6 M	12.6 M

APG 1.2 Reduce CO, SO_2, NO_2, Lead (Pb) *(continued)*		Planned	Actual
FY 2003	Maintain healthy air quality for 167.8 million people living in monitored areas attaining the CO, SO_2, NO_2, or Pb; increase by 435 thousand the number of people living in areas with healthy air quality that have newly attained the standard.		
	Performance Measures:		
	—Cumulative percent increase in the number of people who live in areas with ambient CO, SO_2, NO_2, or Pb concentrations below the level the NAAQS as compared to 1992.		47%
	—Cumulative percent increase in the number of areas with ambient CO, SO_2, NO_2, or Pb concentrations below the level of the NAAQS as compared to 1992.		91%
	—Total number of people who live in areas designated to attainment of the Clean Air Standards for CO, SO_2, NO_2, or Pb.		167.8 M
	—Areas newly designated to attainment for CO, SO_2, NO_2, or Pb standards.	16 areas	5 areas
	—Additional people living in newly designated areas with demonstrated attainment of the CO, SO_2, NO_2, or Pb standards.		435 K
	—Tons of CO reduced from mobile sources.	11.3 M	11.3 M
FY 2002	Maintain healthy air quality for 167 million people living in monitored areas attaining the CO, SO_2, NO_2, or Pb; increase by 16 million the number of people living in areas with healthy air quality that have newly attained the standard.		
	Performance Measures:		
	—Cumulative percent increase in the number of people who live in areas with ambientCO, SO_2, NO_2, or Pb concentrations below the level the NAAQS as compared to 1992.		47%
	—Cumulative percent increase in the number of areas with ambient CO, SO_2, NO_2, or Pb concentrations below the level of the NAAQS as compared to 1992.		87%
	—Total number of people who live in areas designated to attainment of the Clean Air Standards for CO, SO_2, NO_2, or Pb.		167.4 M
	—Areas newly designated to attainment for CO, SO_2, NO_2, or Pb standards.	10 areas	12 areas
	—Additional people living in newly designated areas with demonstrated attainment of the CO, SO_2, NO_2, or Pb standards.		16.5 M
	—Tons of CO reduced from mobile sources.	11.0 M	11.0 M
FY 2001	Maintain healthy air quality for 151 million people living in monitored areas attaining the CO, SO_2, NO_2, or Pb; increase by 419 thousand the number of people living in areas with healthy air quality that have newly attained the standard.		
	Performance Measures:		
	—Cumulative percent increase in the number of people who live in areas with ambient CO, SO_2, NO_2, or Pb concentrations below the level the NAAQS as compared to 1992.		32%
	—Cumulative percent increase in the number of areas with ambient CO, SO_2, NO_2, or Pbconcentrations below the level of the NAAQS as compared to 1992.		76%

APG 1.2 Reduce CO, SO_2, NO_2, Lead (Pb) *(continued)*		Planned	Actual
FY 2001 *(continued)*	—Total number of people who live in areas designated to attainment of the Clean Air Standards for CO, SO_2, NO_2, or Pb.		151.0 M
	—Areas designated to attainment for CO, SO_2, NO_2, or Pb standards.	14 areas	9 areas
	—Additional people living in newly designated areas with demonstrated attainment of the CO, SO_2, NO_2, or Pb standards.		419 K
	—Tons of CO reduced from mobile sources.	11.0 M	11.0 M

FY 2004 Result: Based on available data, EPA is not on track to meet its goal. EPA maintained healthy air quality for 173 million people living in 122 monitored areas attaining the CO, SO_2, NO_2, or Pb standards falling slightly short of its goal of 174 million. Out of the remaining 24 non-attainment areas, EPA certified 14 of its FY 2004 goal of 19. This increased the number of people living in areas with healthy air by 5.4M but missed the target of 6.2M.

A description of the quality of data used to measure EPA's performance can be found in Appendix B, page 20.

APG 1.3 Reduce Particulate Matter		Planned	Actual
FY 2004	**The number of people living in areas with monitored ambient PM concentrations below the NAAQS for the PM_{10} standard will increase by less than 1% (relative to 2003) for a cumulative total of 6% (relative to 1992).**		
	Performance Measures:		
	—Cumulative percent increase in the number of people who live in areas with ambient PM_{10} concentrations below the level of the NAAQS as compared to 1992.	6%	Data avail 2005
	—Cumulative percent increase in the number of areas with ambient PM_{10} concentrations below the level of the NAAQS as compared to 1992.	40%	Data avail 2005
	—Total number of people who live in areas designated attainment of the Clean Air Standards for PM_{10}.	120 M	120.5 M
	—Additional people living in newly designated areas with demonstrated attainment of the PM_{10} standard.	380 K	126 K
	—Areas newly designated to attainment.	9 areas	6 areas
	—Percent of areas with improving ambient PM_{10} concentrations.	76%	Data avail 2005
	—Tons of PM_{10} Reduced from Mobile Sources.	18,100	18,100
	—Tons of $PM_{2.5}$ Reduced from Mobile Sources.	13,500	13,500
FY 2003	Maintain healthy air quality for 120 million people living in monitored areas attaining the PM_{10} standards; increase by 252 thousand the number of people living in areas with healthy air quality that have newly attained the standard.		
	Performance Measures:		
	—Cumulative percent increase in the number of people who live in areas with ambient PM_{10} concentrations below the level of the NAAQS as compared to 1992.		6%
	—Cumulative percent increase in the number of areas with ambient PM_{10} concentrations below the level of the NAAQS as compared to 1992.		50%
	—Total number of people who live in areas designated to attainment of the Clean Air Standards for PM_{10}.		120.4 M

APG 1.3 Reduce Particulate Matter *(continued)*		Planned	Actual
FY 2003 *(continued)*	—Additional people living in newly designated areas with demonstrated attainment of the PM_{10} standard.		252 K
	—Areas newly designated to attainment.	8 areas	5 areas
	—Tons of PM_{10} Reduced from Mobile Sources.	25,000	25,000
	—Tons of $PM_{2.5}$ Reduced from Mobile Sources.	18,000	18,000
FY 2002	Maintain healthy air quality for 120 million people living in monitored areas attaining the PM_{10} standards; increase by 2.7million the number of people living in areas with healthy air quality that have newly attained the standard.		
	Performance Measures:		
	—Cumulative percent increase in the number of people who live in areas with ambient PM_{10} concentrations below the level of the NAAQS as compared to 1992.		5%
	—Cumulative percent increase in the number of areas with ambient PM_{10} concentrations below the level of the NAAQS as compared to 1992.		40%
	—Total number of people who live in areas designated to attainment of the Clean Air Standard for PM_{10}.		120 M
	—Additional people living in newly designated areas with demonstrated attainment of the PM_{10} standard.		2.7 M
	—Areas newly designated to attainment for PM_{10}.	6 areas	4 areas
	—Tons of PM_{10} Reduced from Mobile Sources.	23,000	23,000
	—Tons of $PM_{2.5}$ Reduced from Mobile Sources.	17,250	17,250
FY 2001	Maintain healthy air quality for 120 million people living in monitored areas attaining the PM_{10} standards; increase by 2.7million the number of people living in areas with healthy air quality that have newly attained the standard.		
	Performance Measures:		
	—Cumulative percent increase in the number of people who live in areas with ambient PM_{10} concentrations below the level of the NAAQS as compared to 1992.		3%
	—Cumulative percent increase in the number of areas with ambient PM_{10} concentrations below the level of the NAAQS as compared to 1992.		32%
	—Total number of people who live in areas designated to attainment of the Clean Air Standard for PM_{10}.		117.4 M
	—Additional people living in newly designated areas with demonstrated attainment of the PM_{10} standard.		2.3 M
	—Areas newly designated to attainment for PM_{10}.	5 areas	8 areas

FY 2004 Result: Based on available data, EPA is not on track to meet its goal. EPA met its goal of maintaining healthy air quality for 120.5 million people living in 31 areas designated as attaining the PM_{10} standard. However, EPA certified 6 areas (from the 9 areas) of the 54 remaining non-attainment areas have attained the NAAQS and increased the number of people living in areas with healthy air by 126,000 (not 380,000). While EPA missed the targets for both the number of areas designated and additional people living in healthy air, this is due in part to areas not meeting the procedural requirements for formal designations to attainment. Completion of the air quality monitoring data review, in 2005, will provide more information on percentage of people who live in areas and the number of areas that meet the PM_{10} standard and thus allow EPA to have a more complete picture of air quality.

APG 1.3 Reduce Particulate Matter *(continued)*

(FY 2004 Result *continued*) A description of the quality of data used to measure EPA's performance can be found in Appendix B, page 20.

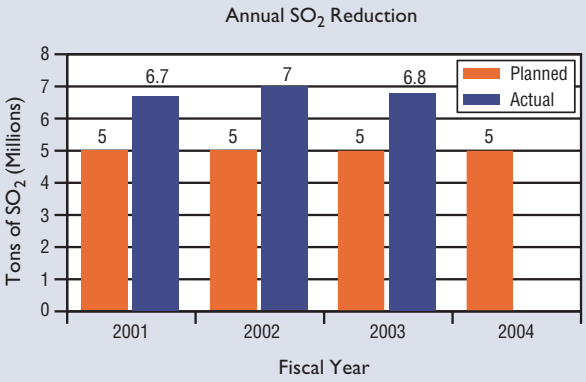
FY 2003 Result Available in FY 2004: As reported in its FY 2003 report, EPA declared this goal met. With this report, EPA is reporting on the data that was not yet available for the FY 2003 report. EPA missed the designation of attainment target but met the target that was the actual emission reduction. There was a cumulative increase of 6% in the number of people who live in areas with ambient PM_{10} concentrations below the level the NAAQS as compared to 1992 and a 50% increase in the number of areas with ambient PM_{10} concentrations below the level of the NAAQS as compared to 1992.

APG 1.4 Reduce SO_2 Emissions		Planned	Actual
FY 2004	Maintain or increase annual SO_2 emission reduction of approximately 5 million tons from the 1980 baseline. Keep annual emissions below level authorized by allowance holdings and make progress toward achievement of Year 2010 SO_2 emissions cap for utilities.	5 M	Data avail 2005

FY 2004 Result: Although data is not available for FY 2004, EPA has continued to meet and exceed this goal for the previous 3 years. FY 2004 data will be available in the last quarter of 2005 to verify that annual emissions reduction of approximately 5 million tons from utility sources were maintained or increased during 2004.

A description of the quality of data used to measure EPA's performance can be found in Appendix B, page 21.

FY 2003 Result Available in FY 2004: This goal was met. SO_2 emissions were reduced by approximately 39% from the 1980 level of 17.4 million tons, approaching the 50% reduction goal from 1980 level by 2010. Unit-level SO_2 emissions data for all sources covered by the Acid Rain Program are available on EPA's website at http://www.epa.gov/airmarkets.



APG 1.5 Increase Tribal Air Capacity		Planned	Actual
FY 2004	Increase the number of tribes monitoring air quality for ozone and/or PM from 42 to 45 and increase the percentage of tribes monitoring clean air for ozone from 64% to 67% and PM from 71% to 72%. Goal Met.		
	Performance Measures:		
	—Percent of Tribes with Tribal Lands Monitoring for ozone and/or Particulate Matter.	13%	18%
	—Percent of Monitoring Tribes Monitoring Clean Air for ozone.	67%	81%
	—Percent of Monitoring Tribes Monitoring Clean Air for PM.	72%	93%
	—Number of Tribes implementing air programs.	45 tribes	74 tribes
FY 2003	Increase the number of tribes monitoring air quality for ozone and/or PM from 37 to 42 and increase the percentage of tribes monitoring clean air for ozone from 62% to 64% and PM from 68% to 71%. Goal Not Met.	42 tribes 64 % 71%	39 tribes 66% 68%

APG 1.5 Increase Tribal Air Capacity *(continued)*

FY 2004 Results: EPA significantly exceeded this goal by almost doubling the number of tribes working to implement air programs, in cooperation with state and local air managers. In FY 2004, 17 out of 21 tribes monitored below the NAAQS for ozone. Fifty-six out of 60 tribes monitored below the NAAQS for PM. The Agency will continue to work with tribes to increase the number of tribes that monitor for air quality.

A description of the quality of data used to measure EPA's performance can be found in Appendix B, page 21.

APG 1.6 Reduce Air Toxic Emissions		Planned	Actual
FY 2004	**Air toxics emissions nationwide from stationary and mobile sources combined will be reduced by an additional 2% of the updated 1993 baseline of 6 million tons for a cumulative reduction of 37%.**		
	Performance Measures:		
	—Combined Stationary and Mobile Source Reductions in Air Toxics Emissions.	2%	Data avail 2012
	—Mobile Source Air Toxics Emissions Reduced.	.71 tons	
	—Stationary Source Air Toxics Emissions Reduced.	1.59 tons	
	—Area and All other Air Toxics Emissions Reduced.	+.13 tons	
FY 2003	Air toxics emissions nationwide from stationary and mobile sources combined will be reduced by an additional 1% of the updated 1993 baseline of 6 million tons for a cumulative reduction of 35%.		
	Performance Measures:		
	—Combined Stationary and Mobile Source Reductions in Air Toxics Emissions.	1%	Data avail 2009
	—Mobile Source Air Toxics Emissions Reduced.	.68 tons	
	—Stationary Source Air Toxics Emissions Reduced.	1.57 tons	
	—Area and All other Air Toxics Emissions Reduced.	+.12 tons	
FY 2002	Air toxics emissions nationwide from stationary and mobile sources combined will be reduced by 5% from 2001 (for a cumulative reduction of 40% from the 1993 level of 4.3 million tons per year.)		
	Performance Measures:		
	—Combined Stationary and Mobile Source Reductions in Air Toxics Emissions.	5%	Data avail 2005
	—Mobile Source Air Toxics Emissions Reduced.		
	—Stationary Source Air Toxics Emissions Reduced.		
	—Area and All other Air Toxics Emissions Reduced.		
FY 2001	Air toxics emissions nationwide from stationary and mobile sources combined will be reduced by 5% from 2000 (for a cumulative reduction of 35% from the 1993 level of 4.3 million tons per year.)		
	Performance Measures:		
	—Combined Stationary and Mobile Source Reductions in Air Toxics Emissions.	5%	Data avail 2005
	—Mobile Source Air Toxics Emissions Reduced.		
	—Stationary Source Air Toxics Emissions Reduced.		
	—Area and All other Air Toxics Emissions Reduced.		

APG 1.6 Reduce Air Toxic Emissions *(continued)*		Planned	Actual
FY 2000	Air toxics emissions nationwide from stationary and mobile sources combined will be reduced by 3% from 1999 (for a cumulative reduction of 30% from the 1993 level of 4.3 million tons per year.)		
	Performance Measures:		
	—Combined Stationary and Mobile Source Reductions in Air Toxics Emissions.	3%	Data avail 2005
	—Mobile Source Air Toxics Emissions Reduced.		
	—Stationary Source Air Toxics Emissions Reduced.		
	—Area and All other Air Toxics Emissions Reduced.		
FY 1999	Reduce air toxic emissions by 12% in FY 1999, resulting in cumulative reduction of 25% from 1993 levels.		
	Performance Measures:		
	—Combined Stationary and Mobile Source Reductions in Air Toxics Emissions.	12%	15%
	—Mobile Source Air Toxics Emissions Reduced.		1.1 tons
	—Stationary Source Air Toxics Emissions Reduced.		1.4 tons
	—Area and All other Air Toxics Emissions Reduced.		+.4 tons

FY 2004 Result: The NTI (National Toxics Inventory) and NEI (National Emissions Inventory) are scheduled to be completed every 3 years. The Agency is currently working on updating the NEI and expects to have FY 2004 results in the last quarter of 2012; FY 2003 results in the last quarter of 2009; and FY 2000, 2001, and 2002 results in the last quarter of FY 2005.

A description of the quality of data used to measure EPA's performance can be found in Appendix B, pages 20-21.

FY 1999 Result Available in FY 2004: EPA exceeded its goal for FY 1999 air toxics emissions reductions. FY 1999 is from the 1999 NEI completed in the fall of 2003.

APG 1.7 Reduce Exposure to Unhealthy Ozone Levels—8 hour		Planned	Actual
FY 2004	**The number of people living in areas with monitored ambient ozone concentrations below NAAQS for the 8-hour standard will increase by 4% (relative to 2003) for a cumulative total 7% (relative to 2001).**		
	Performance Measures:		
	—Cumulative Percent Increase in the number of people who live in areas with ambient 8-hour concentrations below the level of the NAAQS as compared to 2001.	**<1**	**Data avail 2005**
	—Cumulative Percent Increase in the number of areas with ambient 8-hour concentrations below the level of the NAAQS as compared to 2001.	**<1**	**Data avail 2005**

FY 2004 Result: EPA designated the attainment status in FY 2004 for areas meeting the 8-hr ozone standard, thereby establishing the baseline to monitor progress. Monitoring data for FY 2004 will be available in Summer of 2005.

A description of the quality of data used to measure EPA's performance can be found in Appendix B, page 20.

APG 1.8 Reduce Exposure to Unhealthy PM Levels—$PM_{2.5}$		Planned	Actual
FY 2004	The number of people living in areas with monitored ambient $PM_{2.5}$ concentrations below NAAQS will increase by less than 1% (relative to 2003) for a cumulative total of less than 1% (relative to 2001).		
	Performance Measures:		
	—Cumulative Percent Increase in the number of people who live in areas with ambient $PM_{2.5}$ concentrations below the level of the NAAQS as compared to 2001.	<1	Data avail 2005
	—Cumulative Percent Increase in the number of areas with ambient $PM_{2.5}$ concentrations below the level of the NAAQS as compared to 2001.	<1	Data avail 2005

FY 2004 Result: EPA will designate attainment status for $PM_{2.5}$ in FY 2005. This will establish the baseline to monitor progress. Monitoring data will be available in Summer of 2005.

A description of the quality of data used to measure EPA's performance can be found in Appendix B, page 21.

APG 1.9 Acid Rain		Planned	Actual
FY 2004	Reduce total annual average sulfur deposition and ambient sulfate concentrations 25% from baseline. Reduce total annual average nitrogen deposition and ambient nitrate concentrations 5% from baseline.	25% 5%	Data avail 2005
FY 2003	Two million tons of NO_x from coal-fired utility sources will be reduced from levels that would have been emitted without implementation of Title IV of the CAA. Goal Met.	2 M	3.5M

FY 2004 Result: FY 2004 data will be available in last quarter of 2005. The new annual Acid Rain measure was developed as a result of the OMB PART review of the program in FY 2005.

A description of the quality of data used to measure EPA's performance can be found in Appendix B, page 22.

FY 2003 Result Available in FY 2004: EPA met this goal in 2000 and maintained the reduction estimated at 3.5 M tons of NO_x in 2001, 2002, and 2003.

Strategic Objective: By 2008, 22.6 million more Americans than in 1994 will be experiencing healthier indoor air in homes, schools, and office buildings.[9] FY 2004 Cost (in thousands): $53,445 (5.7% of FY 2004 Goal 1 Total Costs)

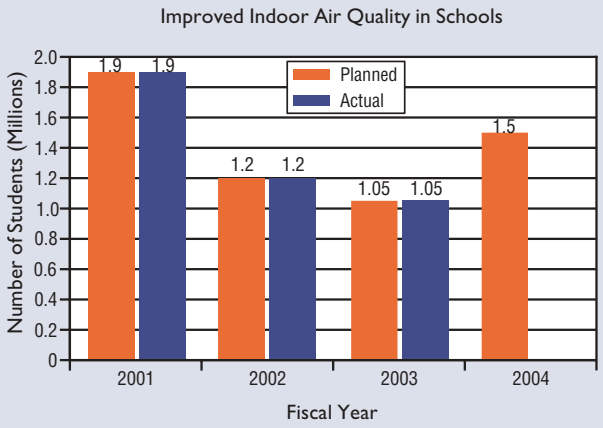
Progress Toward Strategic Objective: EPA is on track toward achieving its 2008 strategic objective of healthier indoor air in homes, schools, and office buildings. EPA has been successful in leveraging the resources and credibility of organizations respected by the public to encourage individuals, decision-makers, industry, and others to take action to reduce health risks in indoor environments. For example, the Indoor Environments Partner Network has allowed EPA to successfully reach target audiences with messages about how to reduce public health risks posed by indoor air contaminants. Partner relationships are being expanded every year, and partners who have committed to long-term public health risk reduction goals are demonstrating good progress.

APG 1.10 Healthier Indoor Air in Schools		Planned	Actual
FY 2004	1,575,000 students, faculty and staff will experience improved indoor air quality (IAQ) in their schools.	1.5 M	Data avail 2005

FY 2004 Result: EPA gathers information on the number of schools and school systems/districts that receive Tools for Schools (TfS) kits and makes assumptions about adoption rates at each school. Based on preliminary data, the Agency expects to meet its goal by reaching 3,000 schools with an average of approximately 525 students/staff per school in adopting an indoor air quality management plans.

A description of the quality of data used to measure EPA's performance can be found in Appendix B, page 22.

FY 2003 Result Available in FY 2004: Based on its review and analysis of partner/grantees' reports and consulting with partners of EPA's Indoor Environment Network, EPA is confident that more than 1 million students and staff are experiencing improved IAQ in schools. In particular, EPA has seen an increase in IAQ planning progress and/or IAQ TfS implementation in 12 of the 15 largest U.S. school district representing more than 4,700 schools. This includes the school districts of Los Angeles, Miami, and Dallas.

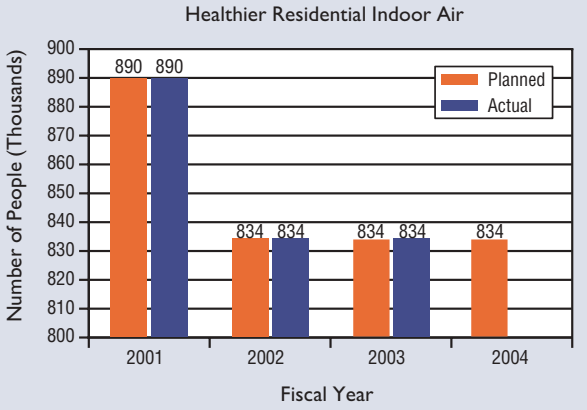


APG 1.11 Healthier Residential Indoor Air		Planned	Actual
FY 2004	834,400 additional people will be living in healthier residential indoor environments.	834,000	Data avail 2005

FY 2004 Result: EPA is currently analyzing the information gathered through the survey instruments mentioned below. EPA expects to have FY 2004 results in FY 2005, and based on historical trends is likely to meet the goal. EPA gathers information from an annual National Association of Home Builders Survey. EPA also reviews the number of sales of radon fans, estimates the annual number of kids not exposed to ETS, and estimates the number of people made aware of EPA's outreach efforts via direct outreach, grant awards, public service announcements, and partnerships efforts.

A description of the quality of data used to measure EPA's performance can be found in Appendix B, page 22.

FY 2003 Result Available in FY 2004: For FY 2003, EPA estimates that it met its goal of approximately 834,400 additional people living in healthier residential indoor environments. This result is based upon information gathered from the Indoor Environment Partner Network which includes traditional partners and grantees, as well as analysis of various results data efforts including public service announcements and outreach, as well as information from the National Association of Home Builders and radon mitigation fan sales. This is a compound measure which includes results from the secondhand smoke, Asthma, and Radon Programs.



Strategic Objective: By 2010, through worldwide action, ozone concentrations in the stratosphere will have stopped declining and slowly begun the process of recovery, and the risk to human health from overexposure to ultraviolet radiation, particularly among susceptible subpopulations, such as children, will be reduced. FY 2004 Cost (in thousands): $14,874 (1.6% of FY 2004 Goal 1 Total Costs)

Progress Toward Strategic Objective: According to the United Nations Environment Programme's "Scientific Assessment of Ozone Depletion: 2002," a 4-year review of developments related to the ozone layer, "the total combined effective abundance

of ozone-depleting compounds continues to decline slowly from the peak that occurred in 1992-1994 (p. 1)." As a result of the continuing reduction in total atmospheric concentrations of ozone-depletors, models project varying rates of recovery in the global amount of total column ozone between now and 2050. The report also states that "measurements continue to confirm that decreases in ozone column amounts lead to increases in UV radiation." UV radiation is a recognized risk factor for skin cancer and has been associated with other health effects, such as cataracts. Therefore, increases in total column ozone by 2010 should reduce the amount of UV radiation reaching the surface and the associated risk of developing health effects.

APG 1.12	Restrict Domestic Consumption of Class II HCFCs	Planned	Actual
FY 2004	**Restrict domestic consumption of class II hydrochlorofluorocarbons (HCFCs) below 9,906 ozone depletion potential-weighted metric tons (ODP MTs) and restrict domestic exempted production and import of newly produced class I chlorofluorocarbons (CFCs) and halons below 10,000 ODP MTs.**		
	Performance Measures:		
	—Domestic Consumption of Class II HCFCs.	**<9,906**	**Data avail 2005**
	—Domestic Exempted Production and Import of newly produced class I HCFCs and halons.	**<10,000**	
FY 2003	Restrict domestic consumption of class II HCFCs below 9,906 ODP MTs and restrict domestic exempted production and import of newly produced class I CFCs and halons below 10,000 ODP MTs.		
	Performance Measures:		
	—Domestic Consumption of Class II HCFCs.	<9,906	Data avail 2005
	—Newly produced Domestic Exempted Production and Import of class I HCFCs.	<10,000	
FY 2002	Restrict domestic consumption of class II HCFCs below 15,240 ODP MTs and restrict domestic exempted production and import of newly produced class I CFCs and halons below 60,000 ODP MTs. Goal Met.		
	Performance Measures:		
	—Domestic Consumption of Class II HCFCs.	<15,240	13,950
	—Newly produced Domestic Exempted Production and Import of class I CFCs and halons.	<60,000	2,347

FY 2004 Result: Data will be available in 2005. Progress on restricting domestic exempted consumption of Class I CFCs and halons is tracked by monitoring industry reports of compliance with EPA's CAA phase out regulations and U.S. obligations under the Montreal Protocol. Data are provided by U.S. companies producing, importing, and exporting Ozone Depleting Substances.

A description of the quality of data used to measure EPA's performance can be found in Appendix B, page 23.

FY 2002 Result Available in FY 2004: EPA met its FY 2002 goal, verifying that domestic consumption of Class II HCFCs was 13,950 metric tons and newly produced domestic exempted production and import of class I CFCs and halons was 2,347 metric tons, in compliance with EPA's phaseout regulations.

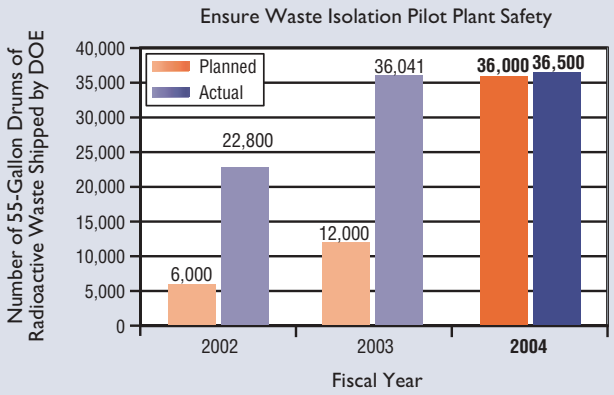
Strategic Objective: Through 2008, working with partners, minimize unnecessary releases of radiation and be prepared to minimize impacts to human health and the environment should unwanted releases occur. FY 2004 Cost (in thousands): $39,053 (4.1% of FY 2004 Goal 1 Total Costs)

Progress Toward Strategic Objective: EPA continues on a steady path toward its 2008 strategic objective of minimizing unnecessary releases of radiation and minimizing impacts to human health and the environment. Highlights of that progress include improved management of "low-activity" radioactive waste; continued radiological emergency response exercises including the summer 2004 Ruby Slippers exercise; recertification of the Waste Isolation Plant and revised stakeholder approach to the WIPP; and the launching of RADINFO that provides basic information about facilities that the EPA regulates for radiation and radioactivity. EPA continues to meet or exceed its WIPP goal. While EPA did not meet its annual goal for updating the national radiation monitoring system, EPA has since revised the schedule and expects to meet the long-term goal while falling short of FYs 2004 and 2005 goals.

APG 1.13 Ensure WIPP Safety		Planned	Actual
FY 2004	Certify that 36,000 55-gallon drums of radioactive waste (containing approximately 108,000 curies) shipped by the Department of Energy (DOE) to the Waste Isolation Pilot Plant are permanently disposed of safely and according to EPA standards. Goal Met.	36,000	36,500

FY 2004 Result: Through FY 2004, EPA has certified as properly disposed approximately 109,000 drums of transuranic waste equivalent to approximately 321,000 millicuries.

A description of the quality of data used to measure EPA's performance can be found in Appendix B, page 23.



APG 1.14 Build National Radiation Monitoring System		Planned	Actual
FY 2004	EPA will purchase 60 state of the art radiation monitoring units thereby increasing EPA radiation monitoring capacity and population coverage from 37% of the contiguous U.S. population in FY 2002 to 50% in FY 2004. Goal Not Met.	60	0

FY 2004 Result: EPA did not meet its FY 2004 target of purchasing and deploying 60 state of the art radiation monitoring units. EPA awarded a contract for the fixed monitors in FY 2004 and expects shipment beginning in FY 2005. EPA expects to reach the overall FY 2008 strategic goal of purchasing and deploying 180 state of the art radiation monitors.

A description of the quality of data used to measure EPA's performance can be found in Appendix B, page 23.

Strategic Objective: Through EPA's voluntary climate protection programs, contribute 45 million metric tons of carbon equivalent (mmtce) annually to the President's 18% greenhouse gas (GHG) intensity improvement goal by 2012. (An additional 75 mmtce to result from the sustained growth in the climate programs are reflected in the administration's business-as-usual projection for GHG intensity improvement.[10]). FY 2004 Cost (in thousands): $112,061 (11.9% of FY 2004 Goal 1 Total Costs)

Progress Toward Strategic Objective: Global climate change is a complex, long-term challenge that will require a sustained effort over many generations. For more than a decade, businesses and organizations have partnered with EPA through voluntary climate protection programs to pursue common sense approaches and addressing global climate change issues. Each year the environmental and economic benefits grow and most recent results (from 2003) show that the programs remain on track. As a result of the partnerships, 48 mmtce of ghg emissions were prevented in 2003, equivalent to the annual emissions from more than 31 million automobiles; 228,000 tons of nitrogen oxides were prevented in 2003; more than 40 mmtce per year in ghg emissions will be avoided during the next decade due to actions already taken by partners in the voluntary programs. Consumers and business have locked in investments in energy-efficient technologies exceeding $16 billion.

APG 1.15	Reduce Greenhouse Gas (GHG) Emissions	Planned	Actual
FY 2004	GHG emissions will be reduced from projected levels by approximately 81 mmtce per year through EPA partnerships with businesses, schools, state and local governments, and other organizations.		Data avail 2005
	Performance Measures:		
	—Annual GHG Reductions- All EPA Programs data available.	81.0	
	—GHG Reductions from EPA's Buildings Sector Programs (ENERGY STAR).	21.4	
	—GHG Reductions from EPA's Industrial Efficiency/Waste Management Programs.	7.3	
	—GHG Reductions from EPA's Industrial Methane Outreach Programs.	18.1	
	—GHG Reductions from EPA's Industrial HFC/PFC Programs.	29.6	
	—GHG Reductions from EPA's Transportation Programs.	2.6	
	—GHG Reductions from EPA's State and Local Programs.	2.0	
FY 2003	GHG emissions will be reduced from projected levels by approximately 72.2 mmtce per year through EPA partnerships with businesses, schools, state and local governments, and other organizations.		
	Performance Measures:		
	—Annual GHG Reductions—All EPA Programs.	72.2 M	82.4 M
	—GHG Reductions from EPA's Buildings Sector Programs (ENERGY STAR).	19.2 M	23.0 M
	—GHG Reductions from EPA's Industrial Efficiency/Waste Management Programs.	6.7 M	7.4 M
	—GHG Reductions from EPA's Industrial Methane Outreach Programs.	17.0 M	17.9 M
	—GHG Reductions from EPA's Industrial HFC/PFC Programs.	24.9 M	29.8 M
	—GHG Reductions from EPA's Transportation Programs.	2.4 M	2.3 M
	—GHG Reductions from EPA's State and Local Programs.	2.0 M	2.0 M

APG 1.15 Reduce Greenhouse Gas (GHG) Emissions *(continued)*		Planned	Actual
FY 2002	GHG emissions will be reduced from projected levels by approximately 65.8 mmtce per year through EPA partnerships with businesses, schools, state and local governments, and other organizations thereby offsetting growth in GHG above 1990 levels by about 20%. Goal Met.	65.8 M	71 M
FY 2001	Same Goal, different target. Goal Met.	66 M	65 M

FY 2004 Result: Final data will be available in mid-2005. Data collected by EPA's voluntary programs include partner reports on facility-specific improvements (e.g., space upgraded, kilowatt-hours reduced), national market data on shipment of efficient products, and engineering measurements of equipment power levels and usage patterns. The information collected is then converted to GHG emissions reduced.

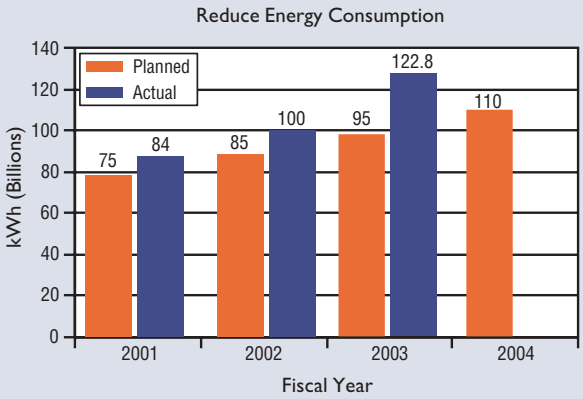
A description of the quality of data used to measure EPA's performance can be found in Appendix B, pages 23-24.

FY 2003 Result Available in FY 2004: EPA met its goal for its Climate Change programs by reducing GHG emissions by 82.4 mmtce.

APG 1.16 Reduce Energy Consumption		Planned	Actual
FY 2004	**Reduce energy consumption from projected levels by more than 110 billion (B) kilowatt-hours (kWh), contributing to more than $7.5 B in energy savings to consumers and businesses.**	110 B	Data avail 2005

FY 2004 Result: The information collected is then converted to energy and related cost savings. Final data will be available in the summer of 2005. Data collected by EPA's voluntary programs include partner reports on facility-specific improvements (e.g space upgraded, kilowatt-hours reduced), national market data on shipment of efficient products, and engineering measurements of equipment power levels and usage patterns.

A description of the quality of data used to measure EPA's performance can be found in Appendix B, page 24.



FY 2003 Result Available in FY 2004: Through the end of 2003, EPA's Climate Change Programs significantly exceed its goal by reducing energy use by 122.8 billion kWh. EPA estimates that from investments made due to EPA's technology deployment programs, businesses and consumers across the country will realize energy bill savings of more than $85 billion through 2012 (net of investment in energy-efficient technologies).

Strategic Objective: Through 2010, provide and apply sound science to support EPA's goal of clean air by conducting leading-edge research and developing a better understanding and characterization of environmental outcomes under Goal 1. FY 2004 Cost (in thousands): $126,576 (13.4% of FY 2004 Goal 1 Total Costs)

Progress Toward Strategic Objective: EPA is on track for meeting this objective. For FY 2004, EPA's Office of Research and Development (ORD) provided crucial information to support NAAQS on the effects of ambient particulate matter (PM) on potentially susceptible groups, such as children and the elderly. ORD also provided important information regarding how PM components may contribute to adverse health outcomes, ultimately allowing EPA to regulate PM based on its components, as well as its mass (PM_{10} or $PM_{2.5}$), in the future. Specifically, an assessment of the toxicity of different sizes of coal fly ash shows that coarse particles do not cause pulmonary inflammation while fine and, to a larger extent, ultrafine particles

do.[ii] EPA is also making progress in assessing the potential health effects of long-term exposure to PM, PM constituents, and co-pollutants, including providing an estimate of the relationships between indoor concentrations and personal exposures to particles from indoor and outdoor sources. The National Research Council, in a recent review of the PM research program, concluded that scientific uncertainty in this area has been greatly reduced in the past several years, and the evidence gained is already being used in decisions that will continue to be made even with the remaining uncertainties.

APG 1.17 Clean Automotive Technology		Planned	Actual
FY 2004	Transfer hybrid powertrain components, originally developed for passenger car applications, to meet size, performance, durability, and towing requirements of Sport utility vehicle and urban delivery vehicle applications with an average fuel economy improvement of 25% over the baseline. Goal Met.		
	Performance Measure:		
	Fuel Economy of typical SUV with EPA-developed hybrid technology over EPA driving cycles tested.	25.2	25.2

FY 2004 Result: The average fuel economy of the typical SUV with EPA-developed hybrid technology represents a 25% increase over the baseline of 20.2 mpg.

A description of the quality of data used to measure EPA's performance can be found in Appendix B, pages 24-25.

APG 1.18 PM Effects Research		Planned	Actual
FY 2004	Provide reports to OAR and the scientific community that examine the health effects of high levels of air pollutants, especially particulate matter in potentially susceptible populations so that PM standards protect human health to the maximum extent possible. Goal Met.		
	Performance Measures:		
	—Report on the chronic respiratory health effects in children of intra-urban gradients of particulate matter and co-pollutants in El Paso, TX.	1 report	1 report
	—Report on epidemiologic studies examining acute cardiac and respiratory effects in the elderly and children exposed to PM and co-pollutants	1 report	1 report

FY 2004 Result: EPA's ORD provided critical information to the OAR to enhance risk estimates needed for promulgating the PM NAAQS and that focus on those who are at greatest risk. Specifically, the two reports completed in 2004 examine the health effects of increased levels of PM on children and the elderly. As noted by the National Research Council, the issue of susceptibility and chronic health outcomes is of utmost importance. There is currently considerable concern that increased levels of PM may disproportionately affect certain susceptible groups, especially when exposures are long-term. One such group is children, especially those with pre-existing asthma and related cardiopulmonary diseases. For example, in a study of children with pre-existing asthma, increases in PM exposure were linked to increased likelihood of an asthma attack and having that attack last for more than 2 hours. Children living in areas of high pollution such as on the U.S.-Mexico border are particularly at risk due to economic factors as well as exposure. The El Paso Children's Health Study examined ambient exposures to motor vehicle emissions and their effect on the prevalence of allergies and asthma among children. Preliminary findings from the study indicate that the duration of El Paso residence is associated with an increased prevalence of allergic sensitization in children, suggesting that environmental exposures in El Paso may be responsible, independent of other risk factors. The elderly with chronic lung disease comprise another susceptible group who may be more acutely affected. In two studies of elderly populations across the U.S., researchers found that a daily increase in PM concentration was associated with decreased heart rate variability, a health endpoint linked to higher mortality risk. This association was documented among health subjects and those with coronary heart disease.

A description of the quality of data used to measure EPA's performance can be found in Appendix B, page 25.

ASSESSMENT OF IMPACTS OF FY 2004 PERFORMANCE ON FY 2005 ANNUAL PLAN:
THERE ARE NO CHANGES TO FY 2005 APGS BASED ON RESULTS OF FY 2004 PERFORMANCE.

Notes

1 U.S. Environmental Protection Agency, Office of Air and Radiation and Office of Policy, Planning and Evaluation. 1997. *Benefits and Costs of the Clean Air Act, 1970 to 1990. Final Report to Congress*. EPA 410/R-97-002. Washington, DC. Available at: http://www.epa.gov/oar/sect812/contsetc.pdf

2 More information is available at: http://www.epa.gov/ozonedesignations/ozonetrends.htm

3 More protective health-based 8-hour ozone standards were implemented on April 15, 2004. Every area in the United States was designated as meeting or failing to meet these tighter standards. More information is available at: http://www.epa.gov/ozonedesignations/

4 The proposed Clean Air Interstate Rule, part of the Clean Air Rules of 2004, addresses pollution that crosses states boundaries. This rule will reduce emissions of SO_2 and NO_x in 29 eastern states and the District of Columbia in two phases. More information is available at: http://www.epa.gov/interstateairquality/

5 U.S. Environmental Protection Agency, Office of Air and Radiation. May 2004.*Clean Air Nonroad Diesel Rule Summary*. EPA 420-F-04-029. Washington, DC. Available at: http://www.epa.gov/otaq/regs/nonroad/equip-hd/2004fr/420f04029.pdf

6 Slaughter, J.C., et al. "Effects of Ambient Air Pollution on Symptom Severity and Medication Use in Children with Asthma." *Annals of Allergy, Asthma, and Immunology* 2003: 91346–53.

7 U.S. Environmental Protection Agency. 2004. Use of Indoor-Outdoor Sulfur Concentrations to Estimate the Infiltration Factor, Personal Exposure Factor, Penetration Coefficient, and Deposition Rate for Individual Homes. 2004.

8 Refer to*Sustained Progress in Addressing Management Issues* available at http://www.epa.gov/ocfo/finstatement/2004ar/2004ar.htm

9 The 1994 baseline is assumed to be zero for purposes of tracking the results of EPA indoor air programs because the number of Americans experiencing healthier indoor air prior to 1994 is unknown.

10 Overall, EPA's climate protection programs will prevent 185 mmtce annually by 2012, up from 65 mmtce in 2002. Of the additional 120 mmtce that will be prevented annually by 2012, 75 mmtce will result directly from the sustained growth in many of the climate programs and are reflected in the Administration's business-as-usual projection for ghg intensity improvement; 45 mmtce will contribute to the attainment of the President's 18% ghg intensity improvement goal. The strategic targets outline the path for preventing the 120 mmtce by 2012.

11 Gilmour MI, Oconnor S, Dick CJ, Miller CA, Linak WP. "Differential pulmonary inflammation and in vitro cytotoxicity of size fractionated fly ash particles from pulverized coal." *J Air Waste Manage Assoc* 2004; 54:1-10.